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ABSTRACT

The study is described which compared school-related self-perceptions of ability of 29 gifted and 71 average-achieving intermediate students over a 2-year period. The Student's Perception of Ability Scale was administered at the beginning and end of grade 6 and at the end of grade 7. The scale contains six subscales: perception of general ability, perception of arithmetic ability, general school satisfaction, perception of reading and spelling ability, perception of penmanship and neatness, and confidence in academic ability. Significant group effects were found for the full scale and for all subscales except school satisfaction and penmanship/neatness. A virtual lack of significant group by time interaction effects indicated relative stability in self-perceptions of ability over the 2-year period for both groups. (Author/CL)

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Academic Self-Concept of Gifted and Average Achieving Students: A Two Year Study

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Academic Self-Concept of Gifted and Average Achieving Students: A Two Year Study

Success and failure in school is influenced not only by cognitive abilities, but also by affective variables (Bloom, 1976; Covington & Beery, 1976; Wittrock, 1986). Successful students usually enter new learning tasks with positive motivational and social-emotional characteristics, whereas failure-prone students frequently approach learning events with negative attitudes and low motivation levels. Prolonged failure, it is argued, will have an increasingly detrimental effect on a student's affective development. Conversely, ongoing success should have an increasingly positive influence on student's feelings of self-worth (Bloom, 1976; Covington & Omelich, 1981). Through a process of "reciprocal interaction" (Bandura, 1977), mounting failures contribute to negative school-related affect, and continual success usually enhances positive school-related affect.

Most of the evidence for the reciprocal effects of affect and achievement in learning outcomes is based on correlational or laboratory studies. One recent study (Chapman, Note 1) has reported on the interaction of school failure and negative school-related affective characteristics over a two-year period for a sample of "learning disabled" and non-handicapped learners. But few, if any, studies have been reported on the effects over time of "success accumulation" for students of exceptional ability.

Indeed, with relatively few exceptions (Clark, 1983; Davis & Rimm, 1985), texts on the education of gifted and talented students deal only in a cursory manner with attributes of the affective domain. And when such social and emotional factors are considered in the wider literature on gifted and talented, they are often cast in a secondary role. They are seen as being instrumental to the fuller functioning of cognitive abilities rather than being of value in their own right.

Exceptionality within a multicategorical approach to the gifted and talented acknowledges dimensions of the affective domain. More specifically, these are associated with social, moral and ethical leadership, with caring values, heightened esthetic sensitivity, and with some aspects of task commitment associated with creativity (Fantini, 1981; Renzulli, Reis & Smith, 1981). In many cases, gifted and talented students have difficulty in determining a realistic understanding of their own abilities--both cognitive and social. Such problems are closely associated with the development of self-concepts, which are central to research in the affective domain.

An increasing body of research associated with self-concept and the gifted and talented attests to a heightened interest in this area (e.g., Coleman & Fults, 1985; Feldhusen & Kolloff, 1981; Kanoy, Johnson & Kanoy, 1980; Karnes & Wherry, 1981; Kelly & Colangelo, 1984; Maddux, Scheiber & Bass, 1982; Milgram & Milgram, 1976; Neufeld & Cozac, 1980; Ross & Parker, 1980; Tidwell, 1980; Winne, Woodlands & Wong, 1982). The results of

such research however, are quite equivocal. A number of studies have suggested that gifted and talented students have higher self-concepts than average ability students (e.g., Coleman & Fults, 1982; Karnes & Wherry, 1981; Tidwell, 1980). Other studies have found either no significant differences (Bracken, 1980; Neufeld & Cozac, 1980), or somewhat variable results according to different grade levels or different education settings such as segregated or mainstreamed contexts (e.g., Coleman & Fults, 1985; Maddux et al., 1982), or according to different subscales on tests (Chapman & Boersma, 1986; Ross & Parker, 1980; Winne et al., 1982).

Some of the factors which contribute to the different results include a wide variety of samples, educational contexts, intervention programs, and research instruments, as well as differing interpretations of the nature of self-concept itself. For example, results may differ according to whether self-concept is seen as a global construct or a multidimensional construct. Thus, Ross and Parker (1980) found that intellectually gifted students possessed significantly higher academic than social self-concepts. Winne et al. (1982), using the Sears and the Coopersmith self-concept measures, and Chapman and Boersma (1986), using the Student's Perception of Ability Scale, have also differentiated components of the self-concept through subscales with contrasting groups of learning disabled, average, and gifted students.

Where the link between self-concept and school achievement

is the focus, concentrating on the academic facet of self-concept appears to produce more consistent and meaningful results (Byrne, 1984). Such studies that focus on academic self-concept with gifted and talented students are very few, and none has apparently been conducted within a longitudinal context.

In view of the lack of longitudinal studies dealing with academic self-concepts of gifted and talented students, the purpose of the present study was to compare school-related self-perceptions of ability of gifted and normally achieving students over a two-year period. The study was undertaken in order to assess the comparative consistency of academic self-perceptions in these two groups, and to ascertain whether ongoing high levels of academic success would be associated with the development of increasingly positive academic self-concepts among gifted students.

Method

Sample

The sample was selected from the cohort of 1,220 Form 1 (Grade 6) students attending five intermediate schools in New Zealand. These children were in their first year of intermediate school at the commencement of the study, and were participating in a larger research project.

The gifted sample comprised 29 children (21 boys; 8 girls). These students were identified as "gifted" following screening on the Test of Scholastic Abilities (TOSCA: Reid, Jackson, Gilmore & Croft, 1981), and subsequent testing with the Wechsler

Intelligence Scale for Children--Revised (WISC-R; Wechsler, 1974). Those students obtaining a TOSCA score in the eighth or ninth stanine were tested with the WISC-R. Inclusion in the present sample was based on students having a WISC-R Full Scale IQ or 125 or greater. This cut-off is in line with most studies of gifted children, which as Renzulli (1980) notes, use estimates in the 125-130 range. The mean Full Scale IQ for this sample was 131, and their mean age at the start of the study was 11.20 years.

The average achieving contrast sample comprised 71 children (42 boys, 29 girls) selected from the same schools as the gifted ample. These students had WISC-R Full Scale scores of 90 or above, and were achieving at or above the 30th percentile level on the standardized Progressive Achievement Test series (New Zealand Council for Education Research, 1969-1974). The mean IQ for the average group was 100, and the mean age was 11.30 years.

Finally, none of the gifted students was in an enrichment program, and none of the normal achievers had a history of having received either remedial or enrichment programming.

Instrument

Academic self-concept was assessed with the Student's Perception of Ability Scale (Boersma & Chapman, 1977). This scale contains 70 forced-choice "Yes-No" items relating to feelings and attitudes about school performance in five basic academic areas (reading, spelling, language arts, arithmetic, and printing/writing), and also to school in general. The items

contribute to six subscales, derived through factor analysis, which include Perception of General Ability, Perception of Arithmetic Ability, General School Satisfaction, Perception of Reading and Spelling Ability, Perception of Penmanship and Neatness (each of which contains 12 items), and Confidence in Academic Ability (10 items). Psychometric data are reported in two main sources; for Canadian children (Boersma & Chapman, 1984), and for New Zealand children (Chapman & Boersma, 1983).

Studies summarized in the Manual (Boersma & Chapman, 1984) have shown that the scale is meaningfully related to students', teachers', and mothers' achievement expectations, is strongly differentiated from general self-concept, makes a significant contribution in predicting grade point average over a 12-month period, usefully discriminates between learning disabled, mentally retarded and non-handicapped students, and is sensitive to change following remedial intervention.

Procedure

The Student's Perception of Ability Scale was administered at the beginning and end of the Form 1 (Grade 6) year, and at the end of the Form 2 (Grade 7) year. Beginning of year administration occurred during the first two weeks of the term, whereas end of year data were collected during mid to end of November. The scale was administered in regular class groups by the first author, colleagues, and senior graduate students as part of a larger cohort study. Students were informed that the purpose of the research was to find out about the "thoughts and

feelings" that children had about school. Assurances were provided about the confidentiality of individual responses. Instructions and items were read aloud. No student was made aware that they were being "assessed" because of their particular ability or achievement level.

Results

Full and subscale academic self-concept scores were treated by means of three-way analyses of variance with repeated measures. The levels were Group (Gifted-Average) by Gender by Time (Feb '82; Nov '82; Nov '83).

Significant Group effects were found for the Full Scale, and for all subscales except School Satisfaction and Penmanship/Neatness. Table 1 reports summary analysis of variance data and Table 2 shows group means and standard deviations for each of the three data collection occasions. Where significant Group effects occurred, the differences in each case were around one raw standard deviation unit.

Insert Tables 1 and 2 about here

Only one significant Gender effect was observed. This was for the Penmanship/Neatness subscale, $F(1,96) = 4.54$, $p < .05$. Here, girls reported higher penmanship/neatness perceptions overall than boys (Girls $M = 8.40$; Boys $M = 6.97$). There was also a significant Time effect for Penmanship/Neatness, $F(2,95) = 4.52$, $p < .05$. This was due to the November 1982 scores being

lower than the February 1982 and November 1983 scores (Feb '82 $\underline{M}$ = 7.93; Nov '82 $\underline{M}$ = 6.98; Nov '83 $\underline{M}$ = 7.59). In addition, a significant three-way interaction was observed for this subscale, $\underline{F}(2,95) = 6.08$, $\underline{p} < .01$. The interaction effect was due mainly to the gifted girls: they dropped from holding the highest Penmanship/Neatness perceptions in February 1982 ($\underline{M}$ = 9.63) to the lowest in November 1983 ($\underline{M}$ = 6.75).

Only one other significant effect was found. This was for Time on the School Satisfaction subscale, $\underline{F}(2,95) = 4.21$, $\underline{p} < .05$). The effect was caused by an overall decline in satisfaction with school over the three time points (Feb '82 $\underline{M}$ = 7.33; Nov '82 $\underline{M}$ = 6.77; Nov '83 $\underline{M}$ = 6.39).

Discussion

The overall difference of one standard deviation between the gifted and average achieving groups indicates a substantial difference in the academic self-concepts of the two samples. A difference of one standard deviation in the other direction is also reported in other studies which have contrasted groups of learning disabled and average achieving students (Boersma & Chapman, 1984).

By comparison with studies which describe a generalized self-concept, the current research offers illuminative information on a number of school-related subscales. The difference between the gifted and average achieving students on the academic ability subscale clearly shows the degree to which the gifted have high overall self-concepts in this area. Further,

differences on subscales associated with arithmetic, reading and spelling were also observed. Considered together, such findings are consistent with the higher achievement levels being achieved by the gifted students.

Where students with special abilities are mainstreamed, as in the present study, a wide range of intellectual and achievement levels exist. Some studies (e.g., Coleman & Fults, 1985) have shown that under such circumstances self-concepts (particularly academic self-concept) remain high. When gifted students are removed to a segregated context however, the reduced heterogeneity of ability is associated with a drop in academic self-concept. Clearly, the peer reference group plays an important mediating role in determining the individual's self-perception of ability. Further evidence of this social comparison phenomenon was reported in a study which indicated that learning disabled students in special classes had higher academic self-concepts than learning disabled children in regular classes (Boersma, Chapman & Battle, 1979). Thus strictly in terms of academic self-concept, mainstreaming may benefit gifted but not learning disabled students.

It is perhaps surprising that in the present study, no significant differences were found between the gifted and average achieving groups on the School Satisfaction and Penmanship/Neatness subscales. Although the gifted students are apparently achieving at a high level and have higher academic self-concepts, they are not necessarily any more satisfied with

classroom-based learning experiences. Lack of challenge and subsequent boredom are frequently reported (Clark, 1983; Davis & Rimm, 1985) as leading to such an attitude. Disenchantment with formalized instruction appears to begin early in education. In a study which examined a group of gifted and non-gifted children in kindergarten through Grade 4, the attitudes of non-gifted children became more positive toward school in the early grades where as the attitudes of gifted students became increasingly negative (Cantor, Klein & Helfat, 1979). Although the longitudinal data in this study do not show a significant decline in the attitudes towards school of the gifted students, it is possible that any decline may have occurred earlier in their schooling.

In terms of the Penmanship/Neatness subscale, the lack of significant differences between the gifted and average achieving groups suggests that gifted students are no more concerned or preoccupied with the neatness of their work than other students. Such findings of no significant difference seem just as important as those where differences are observed, because they highlight that gifted students may be as variable in their self-concepts as other students, and that they do not necessarily hold more positive perceptions across all school related areas.

The virtual lack of significant group by time interaction effects indicates relative stability in self-perceptions of ability over the two-year period for both groups. On-going high levels of achievement therefore, do not necessarily give rise to

increasingly higher levels of academic self-concept, as implied by self-concept theory (Covington & Omelich, 1981). This finding is consistent with a longitudinal study of learning disabled and normally achieving students conducted at the same time as the present study (Chapman, Note 1). There, learning disabled students maintained a stable and relatively low level of ability self-perceptions compared with normally achieving students. It would appear that for both gifted and learning disabled students, academic self-concepts may have levelled off. Their stability may be due to the maintenance of performance levels in school, and the nature of feedback from teachers. Thus, suggestions that either continued success or continued failure in school contribute to an increase or decrease in academic self-concept respectively, may not necessarily hold for this age group. Divergence in ability perceptions may occur early in the school years, and become stable as patterns of performance become stable.

Neither the gifted students in this study nor those in the New Zealand mainstreamed context in general participate in differentiated educational programs designed specifically for their needs. It may be that this factor partly accounts for the relatively static state of perceptions of ability between the two contrasting groups in the study. It would be interesting to pursue research designed to monitor differential changes in self-concept (and achievement) between two contrasting groups of gifted students: those in the mainstream for whom special

programming is not available, and those participating in more deliberate enrichment interventions. Although self-concept theory would suggest that increases in academic performance due to enrichment opportunities should occur, a restricted group of similarly gifted students may actually lead to decrements in academic self-concept. Such a study would help to answer this issue and perhaps show a need to clarify the theoretical relationship between academic self-concept and achievement.

Reference Note

1. Chapman, J.W. (1986). Social-emotional characteristics, teacher expectations, and academic performance of learning disabled children: A longitudinal study. Paper presented at the meeting of the International Academy for Research in Learning Disabilities, Evanston, Ill., October 1986.

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Table 1

Summary ANOVA data for Student's Perception of Ability Scale Scores

	Effect													
	Group		Gender		Group x Gender		Time		Time x Group		Time x Gender		Time x Group x Gender	
Scale	F	p	F	p	F	p	F	p	F	p	F	p	F	p
Full Scale	15.01	.000	0.00	.986	0.38	.540	0.61	.544	1.83	.166	0.13	.875	1.51	.227
General Ability	5.97	.016	0.10	.758	1.99	.162	2.98	.055	2.85	.063	0.13	.878	0.08	.926
Arithmetic	13.21	.000	2.01	.153	0.51	.476	1.67	.195	0.77	.465	0.29	.747	0.07	.929
School Satisfaction	0.44	.507	3.31	.072	1.46	.230	4.21	.018	0.13	.875	0.33	.722	2.70	.072
Reading/Spelling	17.90	.000	1.10	.297	0.22	.882	1.37	.259	0.57	.570	0.05	.955	0.01	.986
Penmanship/Neatness	0.01	.913	4.54	.036	0.13	.715	4.52	.013	1.49	.230	1.43	.245	6.08	.003
Confidence	42.67	.000	3.33	.071	0.12	.913	0.22	.803	0.97	.384	0.26	.775	0.19	.827

Table 2

Summary Student's Perception of Ability Scale Scores

	Gifted (n=29)						NA (n=71)					
	Feb'82		Nov'82		Nov'83		Feb'82		Nov'82		Nov'83	
Scale	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Full Scale	54.55	8.87	54.10	7.72	53.69	7.33	44.66	11.01	43.97	12.63	46.94	9.99
General Ability	10.17	2.09	10.38	1.78	10.21	1.76	8.10	2.73	8.77	2.91	9.45	2.20
Arithmetic	10.97	1.64	11.07	1.58	11.28	0.92	8.99	3.18	8.89	3.05	9.89	2.62
School Satisfaction	7.41	2.68	7.21	2.38	6.79	2.14	7.29	2.73	6.59	3.14	6.22	2.96
Reading & Spelling	11.14	1.83	11.38	1.84	11.38	1.59	8.58	2.74	8.85	3.10	9.37	2.70
Penmanship/Neatness	7.76	3.23	7.07	3.10	7.31	3.08	8.00	3.08	6.94	3.19	7.70	2.99
Confidence	7.10	2.18	7.00	2.14	6.72	2.33	3.70	1.99	3.93	2.34	4.31	2.47